APPENDIX B
Economic Impact Models

ESTIMATING TOURISM RELATED SPENDING, EMPLOYMENT, AND STATE AND LOCAL TAX REVENUES IN UTAH

SUMMARY

Beginning this year, a new analytical methodology is being used to measure the impact of tourism on Utah's economy. In order to place the current description of the impacts for 2008 in historical perspective, this analysis was also applied to the calendar year 2007.

An input-output model is a way of describing the economic relationships in a region (in this case the state of Utah) as an aid to understanding and estimating how changes in one industry affect other industries the state's economy as a whole. IMPLAN (IMpact PLanning and ANalysis), developed by Minnesota IMPLAN Group (MIG), is the model used for this study. MIG draws upon numerous sources to populate the IMPLAN database – primarily Federal Government data from the Bureau of Economic Analysis (BEA), Census Bureau, Bureau of Labor Statistics, and other sources. The data represent 509 industrial sectors and the software establishes the relationships that exist among the sectors, making it possible to estimate the impact on the economy of transactions that occur within and between multiple sectors. The IMPLAN model includes household and government consumption which allows us to estimate the effects on employee compensation, employment levels, and tax revenues.

DEFINING THE TRAVEL AND TOURISM INDUSTRY

Tourism is not defined in most data summaries as a unique "industry" for modeling purposes. In fact, traveler and tourist expenditures cut across numerous industrial sectors – transportation, retail, accommodations, food services, etc. For the purposes of this study, we have used the following sectors and defined in the IMPLAN database:

- Air transportation
- Rail transportation
- Water transportation
- Transit and ground passenger transportation
- Scenic and sightseeing transportation and support
- Food and beverage stores
- Health and personal care stores
- Gasoline stations
- Clothing and clothing accessories stores
- General merchandise stores
- Miscellaneous store retailers
- Motion picture and video industries
- Real estate
- Automotive equipment rental and leasing
- Travel arrangement and reservation services
- Performing arts companies
- Spectator sports
- Independent artists, writers, and performers

- Museums, historical sites, zoos, and parks
- Other amusement and recreation industries
- Hotels and motels
- Other accommodations
- Food services and drinking places

Because the proportion of spending in these categories that is attributable to tourists varies, the spending amounts are adjusted by an "intensity factor" that varies from 0.05 (*e.g.,* retail) to 0.98 (*e.g.,* hotels and motels).

ESTIMATING TRAVEL AND TOURISM RELATED SPENDING, EMPLOYMENT, AND STATE AND LOCAL TAX REVENUES

The IMPLAN model estimates direct, indirect, and induced impacts for the state as whole. As indicated above, "tourism" is not defined as a separate industry. Therefore, it was necessary to select proxies that are closely related and are collected uniformly across the state and available by county. The Utah Tax Commission uses the Standard Industrial Classification (SIC) codes. Hotels and restaurants are closely associated with traveler traffic. The SIC codes representing these sectors are SERVICES-HOTEL & LODGING (7011-7041) and RETAIL-EATING & DRINKNG (5812-5826).

The Department of Workforce Services uses the North American Industry Classification System (NAICS). The NAICS codes most closely related to travel and tourism are **Arts, Entertainment, and Recreation (71)** and **Accommodation and Food Services (72).**

Each county's sales and employment were aggregated for all sectors. The proportion of sales or employment in the sectors described above to the total was the factor used to allocate the state totals from the model to each county. This procedure was carried out for 2007 and 2008